DMP Factory 350 Dual

Dual laser metal printing with integrated powder handling, Oqton's 3DXpert® software and advanced materials

DMP Factory 350 Dual
High precision, high throughput

Now available in a two-laser configuration, the DMP Factory 350 Dual system reduces build times up to 50%. Boost productivity while maintaining high quality and repeatability, yielding lower operational costs. DMP Factory 350 Dual integrates powder management into the printer to reduce operator and environment exposure to powder.

HIGH QUALITY POWDER & PROCESS MANAGEMENT
Integrated powder handling and automatic sieving, high powder recyclability—improved powder usability lifetime.

INTEGRATED METAL PRINTING
DMP printers, Oqton's 3DXpert software and materials are fine-tuned for process reliability and repeatability.

SUPERIOR METALLURGICAL PROPERTIES
Industry's lowest O_2 content during builds (<25 ppm) for exceptionally high-quality parts of high chemical purity.

EXTENSIVELY TESTED MATERIALS
Thousands of hours of parameter optimization ensure predictable and repeatable print quality with a broad range of materials.

EXPANDED CAPABILITIES
Leverage supportless printing with NoSupports* technology, as well as Hybrid Alignment* which blends the use of subtractive and additive processes.

Typical DMP Flex 350 Factory Dual Applications

AEROSPACE & DEFENSE
Heat exchangers, fuel injectors, swirlers, mixers

MEDICAL
Tibial knees, hip cups, surgical guides

TRANSPORTATION
Structural components (e.g. brackets, drive train housings), heat exchangers, manifolds

CARBON CAPTURE
Gas contactors, heat exchangers, gas condensers

SEMICONDUCTOR
Wafer tables, fluid manifolds, linear stage coolers, showerheads, gas feeders & mixers

ENERGY
Stator vanes, impellers, turbine blades, blisks and other components

Go Further with Direct Metal Printing

UNLOCK YOUR PRODUCT'S POTENTIAL
With complete design freedom, direct metal 3D printed parts can be stronger, lighter, longer lasting and higher performing than machined or cast assemblies. Manufacture superior performing products faster and at a lower cost compared to traditional fabrication methods.

STREAMLINE SUPPLY CHAINS
With DMP, you have complete control over your production without relying on specialty components from suppliers. Print entire assemblies on demand, with fewer components.

ACCELERATE TIME-TO-MARKET
Conduct R&D, develop prototypes and manufacture production parts all in the same system. DMP users design faster and shorten production times. Transform complex assemblies taking hundreds of hours to manufacture and assemble into a single high-value part printed in hours.

INCREASE MANUFACTURING AGILITY
Metal additive manufacturing requires no tooling. You are able to quickly update designs and change production to meet variable market demands.

*Contact our AIG Team to learn how you can utilize NoSupports and Hybrid Alignment in your application.

DMP Factory 350 Dual Printer Specifications

Laser Power Type	2 x 500W/Fiber laser[1]
Laser Wavelength	1070 nm
Single Build Volume (X x Y x Z) Height inclusive of build plate	275 x 275 x 420 mm (10.82 x 10.82 x 16.54)
Layer Thickness	Adjustable, minimum 5 µm, typical values: 30, 60, 90 µm
Metal alloy options for single laser configurations:	LaserForm Ti Gr5 (A)[2] LaserForm 316L (A)[3] LaserForm Ti Gr23 (A)[2] LaserForm CoCrF75 (A)[3] LaserForm AlSi10Mg (A)[3] Certified M789 (A)[3] LaserForm AlSi7Mg0.6 (A)[33]
Material Deposition	Soft blade recoater
Repeatability	$\Delta x\ (3\sigma) = 60um$, $\Delta y\ (3\sigma) = 60um$, $\Delta z\ (3\sigma) = 60um$
Minimum Feature Size	200 µm
Typical Accuracy	± 0.1-0.2% with ± 100 µm minimum
Build Platform Heating	250°C

SPACE REQUIREMENTS

Dimensions, uncrated (WxDxH)	2360 x 2400 x 2870 mm (93 x 95 x 113 in)[4]
Weight, uncrated	Approx. 4200 kg (9240 lbs)

FACILITY REQUIREMENTS

Electrical Requirements	400 V/15 KVA/50-60Hz/3 phase
Compressed Air Requirements	6-10 bar
Gas Requirements	Argon, 4-6 bar
Water Cooling	Chiller supplied with printer

QUALITY CONTROL

DMP Monitoring	Optional

CONTROL SYSTEM AND SOFTWARE

Software Tools	Oqton's 3DXpert all-in-one software solution for metal additive manufacturing
Control Software	DMP Software suite
Operating System	Windows 10 IoT Enterprise
Input Data File Formats	All CAD formats, e.g. IGES, STEP, STL, native read formats incl PMI data, all Mesh formats
Network Type and Protocol	Ethernet 1 Gbps, RJ-45 plug

ACCESSORIES

Interchangeable Build Modules	Optional secondary Removable Print Modules (RPMs) for fast material changeover
Volume Reduction Kit on removable print module with 275 x 275 x 420 mm build volume	Optional

POWDER MANAGEMENT

Powder Management	Optional external
Material Loading	Manual

CERTIFICATION

CERTIFICATION	CE, NRTL

[1] Maximum laser power at powder layer is typical 450W for 500W lasers [2] Set up A [3] Set up B [4] Height exclusive of signal tower *Only for evaluation puroposes through AIG Services in the United States

Metal Alloys for the DMP Series

3D Systems' broad range of ready-to-run LaserForm materials is formulated and fine-tuned specifically for 3D Systems' DMP printers to deliver high part quality and consistent part properties. 3D Systems provides a print parameter database that has been extensively developed, tested and optimized with materials in 3D Systems' part production facilities. These facilities hold the unique expertise of printing over one million challenging metal production parts in various materials year over year.

Heat exchanger with complex cooling channels in LaserForm AlSi10Mg (A)

Minireactor for scale testing built in LaserForm 17-4PH (A)

Gas burner with integrated cooling channels in LaserForm Ni718 (A)

Dental partials, copings and bridges in LaserForm CoCr (C)

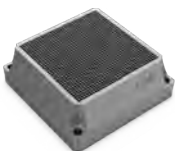High corrosion resistant impeller in LaserForm 316L (A)

Blow mold with conforming holes in LaserForm Maraging Steel (B)

Turbine vane with corrosion resistance at high temperatures in Certified HX (A)

High thermal heat transfer heat exchanger in Certified CuCr2.4 (A)

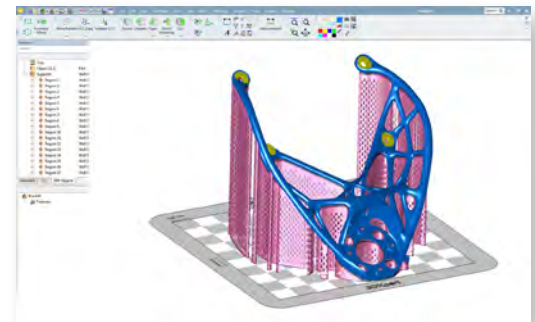Short wavelength EMS collimator in Certified Tungsten (A)

Belled end reducer in Certified CuNi30 (A)

* Availability varies by printer model

DMP MONITORING FOR REAL-TIME PROCESS MONITORING

Advanced manufacturing requires close monitoring of process variables. DMP Monitoring is a process monitoring and non-destructive quality control system, providing a wealth of data for informed decisions on product quality and also serving as process traceability and documentation for highly regulated industries.

FASTER DATA PREPARATION AND EXCEPTIONAL BUILD OPTIMIZATION

Oqton's 3DXpert precision metal printing software is delivered with every DMP printer. Benefit from intelligent design tools and fast build preparation, relying on the extensively tested build parameter database for your material of choice. No other software lets you localize print strategies for increased precision of metal parts.

3D SYSTEMS

Additive Manufacturing Solutions